

AUTHOR INDEX

- Ahmed, M., Giesbrecht, G.G., Serrette, C., Georgopoulos, D. and Anthonisen, N.R., Ventilatory response to hypoxia in elderly humans, 343
- Anthonisen, N.R., see Ahmed, M., 343
- Ar, A., Girard, H. and Rodeau, J.L., Oxygen uptake and chorioallantoic blood flow changes during acute hypoxia in the 16 day chicken embryo, 295
- Atton, L., see Cormier, Y., 179
- Babb, A.L., see Tsu, M.E., 261
- Bartlett, Jr., D., see Furilla, R.A., 47
- Basner, R.C., Ringler, J., Schwartzstein, R.M., Weinberger, S.E. and Woodrow Weiss, J., Phasic electromyographic activity of the genioglossus increases in normals during slow-wave sleep, 189
- Birchard, G.F. and Tenney, S.M., Relationship between blood-oxygen affinity and blood volume, 365
- Brown, R.H., see Parker, S.D., 323
- Bruce, E.N., see Khatib, M.F., 115
- Bureau, M., see Denjean, A., 201
- Burtin, B., see Massabuau, J.-C., 103
- Canet, E., see Denjean, A., 201
- Carlin, J.I., see Hsia, C.C.W., 11
- Cassidy, S.S., see Hsia, C.C.W., 11
- Cherniack, N.S., see Kou, Y.R., 353
- Chonan, T., Hida, W., Okabe, S., Izumiyama, T., Sakurai, M. and Takishima, T., Effects of focal cooling of the ventral medullary surface on breathing pattern and blood pressure in dogs, 77
- Clark, R.J., see Hughes, J.M.B., 155
- Coates, E.L., see Furilla, R.A., 47
- Cormier, Y., Laviolette, M., Atton, L. and Sériès, F., Influence of lung volume on collateral resistance in normal man, 179
- Cragg, P.A., see Kou, Y.R., 353
- Criswell, D., see Powers, S.K., 1
- Denjean, A., Canet, E., Praud, J.P., Gaultier, Cl. and Bureau, M., Hypoxia-induced bronchial responsiveness in awake sheep: role of carotid chemoreceptors, 201
- De Vries, W.R., see Six, D.P.J., 277
- Dodd, S., see Powers, S.K., 1
- Douse, M.A. and Mitchell, G.S., Time course of temperature effects on arterial acid-base status in *Alligator mississippiensis*, 87
- Eldridge, F.L., see Wagner, P.G., 129
- Ernsberger, P., see Kou, Y.R., 353
- Furilla, R.A., Coates, E.L. and Bartlett, Jr., D., The influence of venous CO₂ on ventilation in garter snakes, 47
- Gaultier, Cl., see Denjean, A., 201
- Georgopoulos, D., see Ahmed, M., 343
- Giesbrecht, G.G., see Ahmed, M., 343
- Girard, H., see Ar, A., 295
- Guénard, H., see Manier, G., 143
- Hempleman, S.C. and Hughes, J.M.B., Estimating exercise DL_{O_2} and diffusion limitation in patients with interstitial fibrosis, 167
- Hida, W., see Chonan, T., 77
- Hirshman, C.A., see Parker, S.D., 323
- Hlastala, M.P., see Tsu, M.E., 261
- Hsia, C.C.W., Carlin, J.I., Ramanathan, M., Cassidy, S.S. and Johnson, Jr., R.L., Estimation of diffusion limitation after pneumonectomy from carbon monoxide diffusing capacity, 11
- Hughes, J.M.B., Lockwood, D.N.A., Jones, H.A. and Clark, R.J., DL_{CO}/\dot{Q} and diffusion limitation at rest and on exercise in patients with interstitial fibrosis, 155
- Hughes, J.M.B., see Hempleman, S.C., 167
- Izumiyama, T., see Chonan, T., 77

- Jackson, D.C., see Wasser, J.S., 239
 Johnson, Jr., R.L., see Hsia, C.C.W., 11
 Jones, H.A., see Hughes, J.M.B., 155
- Kakuta, Y., Sasaki, H. and Takishima, T., Effect of artificial surfactant on ciliary beat frequency in guinea pig trachea, 313
 Khatib, M.F., Oku, Y. and Bruce, E.N., Contribution of chemical feedback loops to breath-to-breath variability of tidal volume, 115
 Kobayashi, H., Pelster, B., Piiper, J. and Scheid, P., Diffusion and perfusion limitation in alveolar O₂ exchange: shape of the blood O₂ equilibrium curve, 23
 Kobayashi, H., Piiper, J. and Scheid, P., Effect of the curvature of the O₂ equilibrium curve on alveolar O₂ uptake: theory, 255
 Kou, Y.R. and Lee, L.-Y., Mechanisms of cigarette smoke-induced stimulation of rapidly adapting receptors in canine lungs, 61
 Kou, Y.R., Ernsberger, P., Cragg, P.A., Cherniack, N.S. and Prabhakar, N.R., Role of α_2 -adrenergic receptors in the carotid body response to isocapnic hypoxia, 353
- Lahiri, S., see Pokorski, M., 211
 Lai, Y.-L., Role of the axon reflex in capsaicin-induced bronchoconstriction in guinea pigs, 35
 Laviolette, M., see Cormier, Y., 179
 Lawler, J., see Powers, S.K., 1
 Lee, L.-Y., see Kou, Y.R., 61
 Lockwood, D.N.A., see Hughes, J.M.B., 155
 Luijendijk, S.C.M., see Six, D.P.J., 277
- Manier, G., Moinard, J., Téhoueyres, P., Varène, N. and Guénard, H., Pulmonary diffusion limitation after prolonged strenuous exercise, 143
 Massabuau, J.-C., Burtin, B. and Wheathly, M., How is O₂ consumption maintained independent of ambient oxygen in mussel *Anodonta cygnea*?, 103
 Mitchell, G.S., see Douse, M.A., 87
 Moinard, J., see Manier, G., 143
- Okabe, S., see Chonan, T., 77
 Oku, Y., see Khatib, M.F., 115
 Olson, L.G., Ulmer, L.G. and Saunders, N.A., Mechanical properties of the rabbit upper airway during hypoxia and hypercapnia, 333
- Parker, S.D., Brown, R.H. and Hirshman, C.A., Differential effect of glucocorticoids on pulmonary responses and eosinophils, 323
 Pelster, B., see Kobayashi, H., 23
 Piiper, J., see Kobayashi, H., 23
 Piiper, J., see Kobayashi, H., 255
 Pokorski, M. and Lahiri, S., Endogenous opiates and ventilatory acclimatization to chronic hypoxia in the cat, 211
 Powers, S.K., Lawler, J., Criswell, D., Dodd, S. and Silverman, H., Age-related changes in enzyme activity in the rat diaphragm, 1
 Prabhakar, N.R., see Kou, Y.R., 353
 Praud, J.P., see Denjean, A., 201
 Precht, J., see Wittmann, J., 375
- Ramanathan, M., see Hsia, C.C.W., 11
 Ringler, J., see Basner, R.C., 189
 Rodeau, J.L., see Ar, A., 295
- Sakurai, M., see Chonan, T., 77
 Sasaki, H., see Kakuta, Y., 313
 Saunders, N.A., see Olson, L.G., 333
 Scheid, P., see Kobayashi, H., 23
 Scheid, P., see Kobayashi, H., 255
 Schwartzstein, R.M., see Basner, R.C., 189
 Serrette, C., see Ahmed, M., 343
 Silverman, H., see Powers, S.K., 1
 Six, D.P.J., De Vries, W.R. and Luijendijk, S.C.M., Sloping alveolar plateaus of He and SF₆ measured in excised cat lungs ventilated at constant volume by pressure changes, 277
 Smatresk, N.J. and Smits, A.W., Effects of central and peripheral chemoreceptor stimulation on ventilation in the marine toad, *Bufo marinus*, 223
 Smits, A.W., see Smatresk, N.J., 223
 Sugiyama, E.M., see Tsu, M.E., 261
 Sériès, F., see Cormier, Y., 179
- Takishima, T., see Chonan, T., 77
 Takishima, T., see Kakuta, Y., 313
 Tenney, S.M., see Birchard, G.F., 365
 Tsu, M.E., Babb, A.L., Sugiyama, E.M. and Hlastala, M.P., Dynamics of soluble gas exchange in the airways: II. Effects of breathing conditions, 261
 Téhoueyres, P., see Manier, G., 143
- Ulmer, L.G., see Olson, L.G., 333
 Varène, N., see Manier, G., 143

- Wagner, P. G. and Eldridge, F. L., Development of short-term potentiation of respiration, 129
- Warburton, S. J., see Wasser, J. S., 239
- Wasser, J. S., Warburton, S. J. and Jackson, D. C., Extracellular and intracellular acid-base effects of submergence anoxia and nitrogen breathing in turtles, 239
- Weinberger, S. E., see Basner, R. C., 189
- Wheathly, M., see Massabuau, J.-C., 103
- Wittmann, J. and Precht, J., Respiratory function of catecholamines during the late period of avian development, 375
- Woodrow Weiss, J., see Basner, R. C., 189



SUBJECT INDEX

- Acid base balance
 - and anoxia in turtle, 239
 - prolonged temperature changes, 87
- Adrenoceptors
 - and hypoxic response, 353
- Aging
 - and diaphragm metabolic activity, 1
 - and ventilatory response to hypoxia, 343
- Airway
 - clearance, 313
 - heat, 261
 - hyperresponsiveness and eosinophils, 323
 - reactivity, 35
 - resistance, 201, 323
 - water and gas exchange, 261
- Alveolar gas exchange, 23
- Alveolar lavage, 323
- Alveolar lung
 - O₂ exchange, 255
- Alveolar-arterial P_{O₂} difference, 167
- Animal
 - alligator, 87
 - cat, 129, 211
 - chicken, 295, 375
 - dog, 11, 61, 77
 - freshwater mussel, 103
 - greyhound dog, 323
 - guinea pig, 35, 313
 - man, 143, 155, 179, 189, 343
 - rat, 1, 115
 - sheep, 201
 - snake, 47
 - toad, 239
 - turtle, 239
- Anoxia
 - and acid base balance in turtle, 239
- Arterial blood
 - composition in mussel, 103
- Asthma
 - and hypoxia, 201
- Axon reflex
 - and capsaicin-induced bronchoconstriction, 35
- Blood
 - total-volume, 365
- Blood gases
 - and temperature in ectotherms, 87
- Blood O₂ equilibrium curve, 255
 - effects of alinearity on alveolar O₂ exchange, 23
- Bronchoconstriction
 - and cigarette smoke, 61
 - and lung receptors, 61
 - induced by capsaicin, 35
- Buffer value, 239
 - in alligator, 87
- Carotid body, 353
- Carotid chemoreceptors
 - and hypoxia-induced bronchial responsiveness, 201
 - effects of opiate antagonists, 211
- Catecholamines, 375
- Central respiratory neurons, 129
- Chemical feedback, 115
- Chemoreceptors, *see also* Carotid chemoreceptors
 - central, 77
 - in the toad, 223
- Ciliary beat frequency
 - and artificial surfactant, 313
- Carbon dioxide
 - stimulation of respiration, 47
- Collateral ventilation, 179
- Control of breathing, 129, 211
 - chemical feedback, 115
 - chemoreceptors in the toad, 223
 - response to CO₂ in snake, 47
 - ventral medulla, 77
- Control of vasomotor tone
 - ventral medulla, 77
- Convection
 - in alveolar gas exchange, 255
- Cryptogenic fibrosing alveolitis, 155

- Development, 374
- Diaphragm
 - metabolic properties and age, 1
- Diffusing capacity
 - for CO, 11, 143, 155
 - for O₂, 167
 - for NO, 143
 - predicted vs observed, 11
 - pulmonary, 143
- Diffusion
 - and alveolar gas exchange, 155, 167, 255
- Drug
 - capsaicin, 35
 - chlorisondamine, 35
 - hexamethonium, 61
 - isoproterenol, 61
 - naloxone, 211
 - TTX, 35
- Egg
 - metabolism in hypoxie and hyperoxia, 295
 - respiration, 295
- Electrolyte in blood
 - and temperature in ectotherms, 87
- Enzymes
 - glycolytic, 1
 - of Krebs cycle, 1
- Exercise
 - and alveolar O₂ uptake, 23
 - and lung diffusing capacity, 11
 - and pulmonary diffusing capacity, 143
 - hyperpnea, 129
 - in patients with interstitial lung disease, 155
- Gas exchange
 - cutaneous – in snake, 47
 - in airways, 261
 - in alveolar lung, 255
- Gas mixing in the lung, 277
- Heat exchange
 - in airways, 261
- Humidification
 - of air in upper airways, 261
- Hypercapnia
 - and pressure in upper airways, 333
- Hypoxemia at rest
 - on exercise, 167
- Hypoxia, 375
 - α -adrenoceptors, 353
 - and bronchial responsiveness, 201
 - and diffusion limitation, 23
 - and opiate antagonist, 211
 - and pressure in upper airways, 333
 - tolerance of – and P₅₀, 365
 - ventilatory response to –, 343
- Inert gases
 - He, 277
 - SF₆, 277
- Limitation for alveolar O₂ exchange
 - by diffusion, 23
 - by perfusion, 23
- Lung disease
 - interstitial fibrosis, 155
- Lung receptors
 - irritant, 61
 - rapidly adapting, 61
 - response to cigarette smoke, 61
- Lung volume
 - and collateral resistance, 179
- Metabolism
 - depression by anoxia in turtle, 239
- Methylprednisolone
 - and airway hyperresponsiveness, 323
- Model
 - for alveolar gas exchange, 23
 - for gas exchange in airways, 261
- Obstructive sleep apnea, 189
- Oxygen affinity
 - of hemoglobin and blood volume, 365
- Oxygen consumption
 - dependent on inspired P_{O₂}, 103
 - in mussel, 103
 - of chicken egg, 295
- Pattern of breathing
 - and ventral medulla, 77
 - breath-to-breath variability, 115
- pH
 - in mussel, 103
- Pneumonectomy
 - and diffusing capacity, 11
- Pressure breathing, 277
- Respiratory afferents, 129
- Respiratory muscles
 - diaphragm, 1
 - genioglossus, 189
- Response to citric acid, 323

- Short-term potentiation, 129
- Single-breath washout, 277
- Sleep apnea, 189
- Smoke, 61
- Surfactant
 - artificial, 313
- Temperature
 - and acid-base status in ectotherms, 87
- Upper airway
 - muscles of —, 333
 - resistance during sleep, 189
- Vagotomy
 - and response to CO₂ in snake, 47
- Ventral medulla
 - focal surface cooling, 77



